TEACHER: Sage Hunter

GRADE: 8th grade

SUBJECT: Challenge based learning – recycling initiative

OBJECTIVES: The students will identify the various waste materials generated in the school as well as around the world. They will describe the sequence of collection and the destination of the materials identified. Students will propose solutions to waste production.

RESOURCES: Classroom wastebasket, maintenance personnel, web access, computer use.

PROCEDURE:

1. Separate the class into 5 groups.

2. Have group one examine the contents of the classroom wastebasket. Ask the group to identify the various types of waste materials generated in the classroom. Categorize the waste materials as paper products, glass, metals, plastics, organic wastes, etc. Record the findings on board.

3. The second group should examine the flow of the waste materials after they are collected from the classroom. This may require an interview with maintenance personnel. Are the wastes consolidated with other classroom's wastes? Why? Are the wastes transferred to a large capacity receptacle? Are any wastes burned in a school incinerator? Are any waste materials recycled? If wastes are collected from the school by the municipality or a commercial disposal firm, where are the wastes disposed?

4. Have the third group determine the types of wastes generated in special subject areas of the school (arts and crafts, gym, home economics, industrial arts, etc.), the school cafeteria, the office, the maintenance area. Are these wastes handled in the same manner as classroom wastes? Determine what other wastes are generated by the school. Where do these wastes go?

5. Have the fourth group research the amount of waste produced by different areas around the world. This group will determine what areas produce the most waste, what areas produce the least waste and compare lifestyles in theses areas and compare and contrast the similarities and differences.

6. Have the fifth group research solutions to reducing the amount of waste and create a proposal as to how we can put those solutions into action in our school and community.

\*\*Each group will create a presentation for the class to share the information their group was responsible for researching

5. Regroup the class. Have a member or members of each group report the group findings, beginning with group one. Create a diagram or a flowchart on the chalkboard to outline the reports of groups two and three, indicating the steps between waste generation and waste disposal.

6. Ask whether any members of the class live near or have visited a landfill, an incinerator, a recycling center, or a sewage treatment plant. Ask for descriptions and impressions of the facilities. Determine whether any of these facilities are located near the school. You may need to contact your county planning department for the locations. Plot the facility locations and the school location on the road map. Calculate the distances that waste materials must be transported to each facility. List the type of wastes generated by the school which are managed by each facility and the distance of each facility from the school.

7. (Optional) Arrange a class field trip to one or more waste management facility. Create a class record for each facility. Include photos, drawings, essays, and audio or video tape recordings.